

aras community event

2010 International Conference

Configuration & Change Management

Rob McAveney

www.aras.com



Hosted by:

MOTOROLA

1295 E. Algonquin Road
Schaumburg, IL 60196

Why CM?



- ❖ Every organization has customers. Every organization has products and/or services intended to satisfy the needs of those customers.
- ❖ Every organization has delivery systems to achieve each applicable phase of the life cycle for those products and/or services.
- ❖ Every organization must continuously improve its products and/or services and its delivery systems if it hopes to stay in business.
- Good CM ensures all these things are happening

What is CM?



- ❖ A discipline applying technical and administrative direction and surveillance over the life cycle of configuration items (CIs) to:
 1. Identify and document the functional and physical characteristics of CIs.
 2. Control changes to CIs and their related documentation.
 3. Record and report information needed to manage CIs effectively, including the status of proposed and approved changes.
 4. Audit CIs to verify conformance to documented requirements.

MIL-STD-973, Configuration Management, 1992

- ❖ CM is the process of managing products, facilities and processes by managing their requirements, including changes, and ensuring that results conform.

The Institute of Configuration Management

Scope & Emphasis of CM



- ❖ The scope includes all administrative and technical information that could impact safety, quality, schedule, cost, profit, customer satisfaction or the environment.
- ❖ The emphasis is to:
 1. Accommodate [encourage] change
 2. Assure the change process is closed loop
 3. Assure information is accessible
 4. Assure that all information remains clear, concise and valid
 5. Assure everyone is working to the correct requirements at all times
 6. Assure results conform to the requirements, and
 7. Standardize best CM practice throughout the organization.

The Institute of Configuration Management

Challenges in Implementing CM



- ❖ Over 400 different standards define or reference CM processes
 - ISO, ANSI, IEEE, MIL, DOD, DOE, FAA, etc.
- ❖ Software vendors all claim to embed best practices, but they all do it differently
- ❖ Management perception is either that
 1. CM is only for large Aerospace & Defense companies
 2. CM is the same as Document Control
- ❖ CM has impact across the entire organization, not just one department

Get Educated



- ❖ Education (not software!) is the most important factor in implementing good CM
- ❖ Two main CM training providers:

- ✓ Institute of Configuration Management
www.icmhq.com
CMII Training



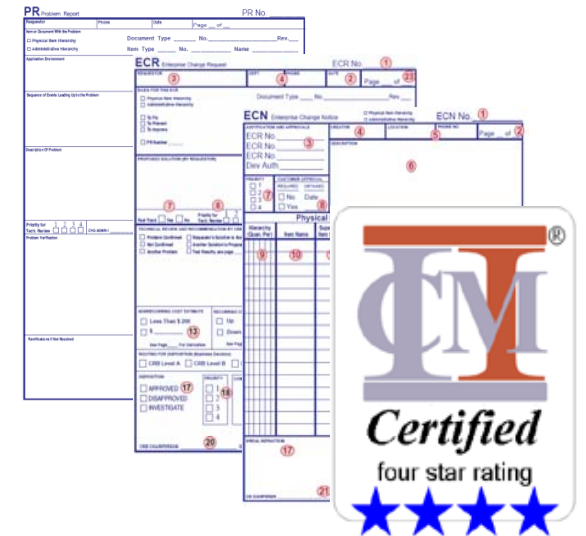
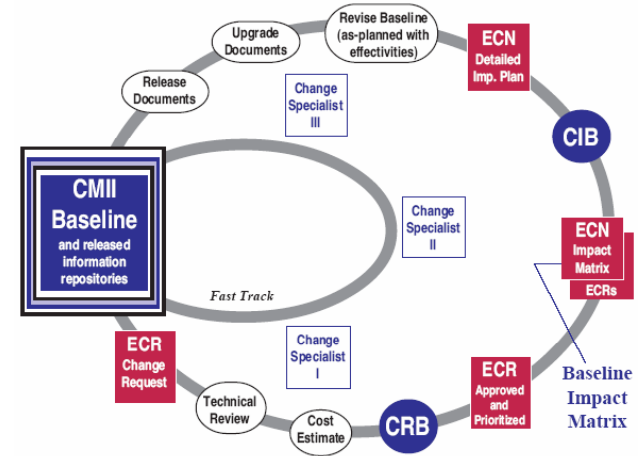
- ✓ CM Process Improvement Center
www.cmpic.com
Broad based CM Training



Aras Approach to CM



- ❖ Choose CM industry standard
- ❖ Implement a reference solution as close to the standard as possible
 - Aras Product Engineering
- ❖ Recognize that each company will do CM a little differently
 - Provide for easy changes to the solution
- ❖ Encourage sharing of good ideas
 - Aras Community
- ❖ Continuously Improve



Aras Product Engineering



❖ Roles, processes, forms and rules derived directly from the CMII standard

The image displays three overlapping screenshots of the Aras Innovator software interface, demonstrating its capabilities in managing Engineering Change Requests (ECRs).

- Top Left Screenshot:** Shows the main ECR management interface. A tree view on the left lists various ECRs, such as ECR-100002 (Housing Material) and ECR-100003 (Bracket width Part). The main area displays details for a selected ECR, including its title, creation/modification dates, and status.
- Top Middle Screenshot:** Shows a detailed form for ECR-100001. It includes fields for ECR Number, Title, and Requested By. There are radio buttons for selecting the type of change (Administrative Hierarchy, Physical Hierarchy, Corrective Action, Product Improvement). A section for "Proposed Solution" and "Tech Review & Recommendation" is visible.
- Top Right Screenshot:** Shows a workflow process diagram for ECR-100002. The diagram illustrates the flow from "Submit ECR" through various steps like "Tech Review", "CRB Meeting", and "Disposition ECR" to "ECR Approved" or "ECR Disapproved".

The bottom screenshot shows a table of activities and process variables, including columns for Priority, Name, Message, Escalate To, and Subflow. The table lists activities such as "Review ECR", "Online CRB", "Technical Review", and "Disposition ECR".

CMII Enterprise Community Solution



Aras Program Management

- Phase-Gate Projects
- Milestone & Deliverables
- Traffic Light Risk Dashboards
- PMI Project Templates

CMII Enterprise

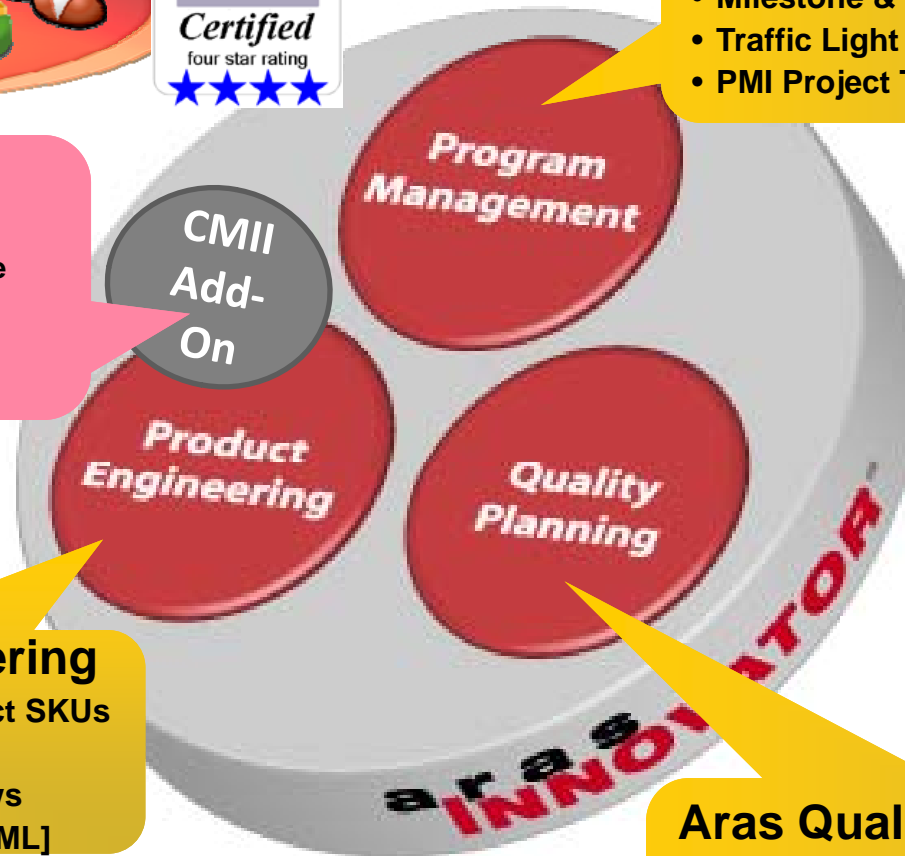
- Physical Item Hierarchy
- As Planned-As Released Baseline
- CMII Document Types
- ECN Impact Matrix
- Document Review Process

Aras Product Engineering

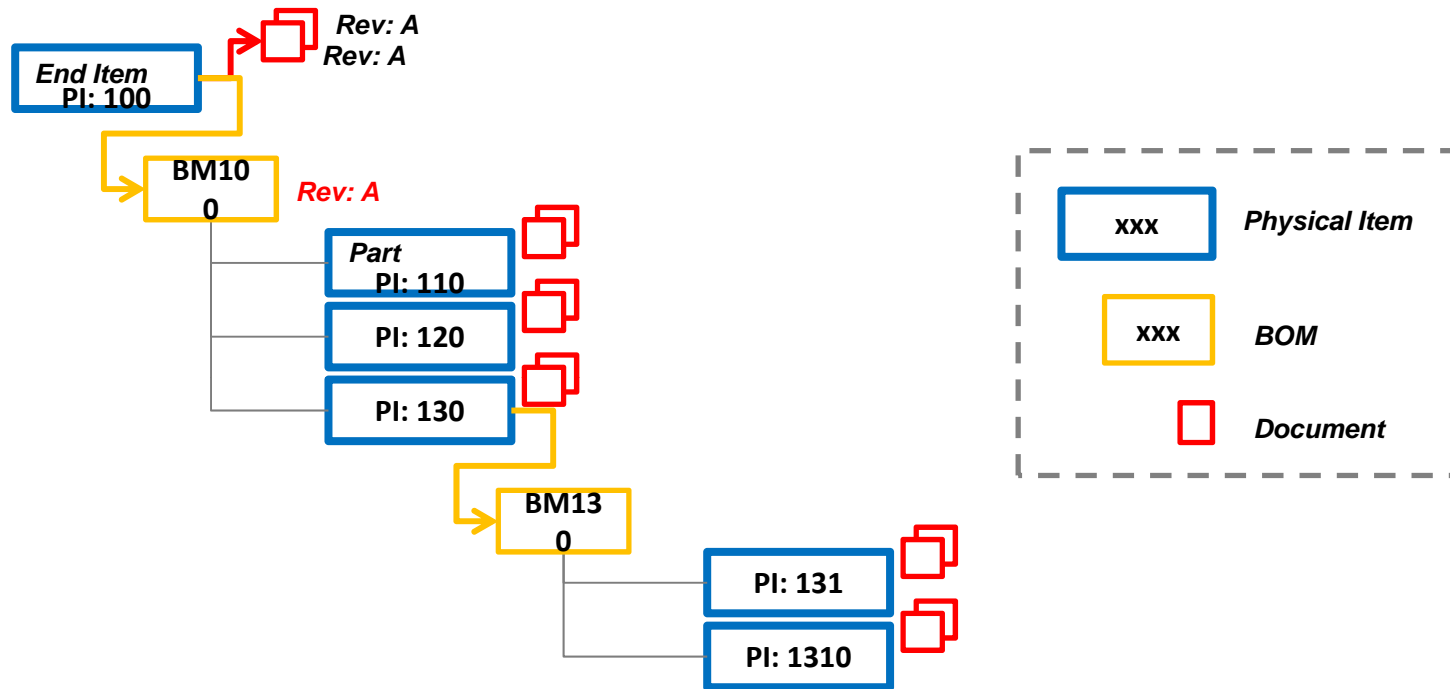
- Bill Of Materials [BOM], Product SKUs
- File & Document Management
- Change Management Workflows
- Approved Vendor Lists [AVL/AML]

Aras Quality Planning

- Risk Management
- Failure Mode Effects Analysis [FMEA]
- Control Plans
- Action Item Closed-Loop



Physical Hierarchy



- ❖ Independent of the Part / Part BOM structure
- ❖ Physical Items are non-versionable
- ❖ Revisions tracked on BOM item

Physical Item



Physical Item - 393530 Module Assembly (read only) - Microsoft Internet Explorer

File Edit Views Search Actions Reports Tools Help

Type: Part
Item Number: 393530
Nomenclature: Remote
Name: Module Assembly
Unit: [] [v]
Owned_By_Id: [Data Administrator](#)
 Serialized

Physical Item
Active

Documents Hierarchy / CM2 Baseline

Actions Pick Related Simple Search Page Size: [] [v]

Pos	DocType	Number	Revision	Name	State	Owner / Author [...]
1	AD	393530-1	A	Assembly Drawing	Released	Innovator Admin
2	BM	393530	B	BOM of	Released	Data Administrator
3	PP	393530	B	Production Plan	Released	Data Administrator
4	TS	393510	C	Tech Specs	Released	Data Administrator

Ready Items 1-4 of 4. Page 1 of 1

aras INNOVATOR

Physical Item – CMII Baseline



Physical Item - 393530 Module Assembly (read only) - Microsoft Internet Explorer

File Edit Views Search Actions Reports Tools Help

Type: Part Item Number: 393530 Nomenclature: Remote

Name: Module Assembly Unit: []

Owned_By_Id: Data Administrator Serialized:

Physical Item: Active

Documents: Hierarchy / CM2 Baseline

Physical Hierarchy	Qty	Pos	Name	Rev	DL	Status	ChgAuth	Release Date	Effective Date	ChgAction	Pending Chg	Chg Efy	Change Info
393530	--	--	Module Assembly	--	--	AS RELEASED	--	--	--	Doc Change	ECN-0000107	not	documentation changes
<i>TS393530</i>	--	(4)	Tech Specs	C		Released	ECN-0000104	11/20/2009	11/20/2009	Supersede Doc	ECN-0000107	not	with: not set
<i>PP393530</i>	--	(3)	Production Plan	B		Released	ECN-0000105	11/22/2009	11/22/2009				
<i>AD393530-1</i>	--	(1)	Assembly Drawing	A		Released		11/22/2009	11/22/2009				
<i>BM393530</i>	--	(2)	BOM of	B		Released	ECN-0000105	11/22/2009	11/22/2009	New Doc Rev	ECN-0000107	not	proposed Rev: B
115720	1	10	Lithium, BR, 2 Year							Doc Change	ECN-0000107	not	documentation changes
<i>PS115720</i>	--	(1)	Procurement Specs	A		Released	ECN-0000104	11/20/2009	11/20/2009	New Doc Rev	ECN-0000107	not	proposed Rev: A
<i>BM115720</i>	--	(0)	BOM of Lithium, BR, 2 Year	A		Released		11/22/2009	11/22/2009	New Doc Rev	ECN-0000107	not	proposed Rev: A
411157	1	10	Battery Clip							Supersede Item	ECN-0000107	not	with: not set
353561	1	20	Molded Back Half							Doc Change	ECN-0000107	not	documentation changes
<i>_NEW_DOC</i>	--	(0)	Add new or existing (BM) Document	--	--	--	--			Add Document		not	
<i>MS353561</i>	--	(2)	Material Specs	A		Released	ECN-0000104	11/20/2009	11/20/2009				
<i>DD353561</i>	--	(1)	Design	A		Released	ECN-0000104	11/20/2009	11/20/2009				
<i>NEW_ITEM</i>	7	1	Add new or exiting Physical Item	--	--	--	--			Add Item		not	
402101	1	30	Molded Front Half, 4 Hole										
<i>MS402101</i>	--	(2)	Material Specs	A		Released	ECN-0000104	11/20/2009	11/20/2009				
<i>DD402101</i>	--	(1)	Design	A		Released	ECN-0000104	11/20/2009	11/20/2009				
462030	7	40	Molded, 4 Button							Delete Item	ECN-0000107	not	
<i>FS462030</i>	--	(3)	Functional Specs	A		Released	ECN-0000104	11/20/2009	11/20/2009				
<i>PS462030</i>	--	(2)	Procurement Specs	A		Released	ECN-0000104	11/20/2009	11/20/2009				
<i>AD462030</i>	--	(1)	Drawing	A		Released	ECN-0000104	11/20/2009	11/20/2009				
292102	1	50	Key, 1/2 Inch, Stainless Steel							Doc Change	ECN-0000107	not	documentation changes
<i>MS292102</i>	--	(2)	Material Specs	C		Released	ECN-0000104	11/20/2009	11/20/2009				
<i>PS292102</i>	--	(1)	Procurement Specs	C		Released	ECN-0000104	11/20/2009	11/20/2009	Delete Document	ECN-0000107	not	
102595	1	60	Assembly, FPO, SM, RSS							Doc Change	ECN-0000107	not	documentation changes
<i>BM102595</i>	--	(2)	BOM of	B		Released	ECN-0000105	11/22/2009	11/22/2009	New Doc Rev	ECN-0000107	not	proposed Rev: B
<i>AD102595</i>	--	(1)	Drawing	A		Released	ECN-0000104	11/20/2009	11/20/2009				
<i>PP102595</i>	--	(3)	Production Plan	A		Released	ECN-0000104	11/20/2009	11/20/2009				
<i>NEW_ITEM</i>	7	1	Add new or exiting Physical Item	--	--	--	--			Add Item		not	
430878	2	10	SM-8020, 10K, 5%										
<i>PS430878</i>	--	(1)	Procurement Specs	A		Released	ECN-0000104	11/20/2009	11/20/2009				
240897	2	30	SM-7795, 330PF, 5%										
<i>PS240897</i>	--	(1)	Procurement Specs	A		Released	ECN-0000104	11/20/2009	11/20/2009				
442163	1	40	SM-55PF, 50V										
<i>PS442163</i>	--	(1)	Procurement Specs	A		Released	ECN-0000104	11/20/2009	11/20/2009				
411025	2	50	SM-XXX 4.75K 1%										

Items 1-4 of 4. Page 1 of 1

CMII Documents



BOM - BM 102595 BOM of (read only) - Microsoft Internet Explorer

File Edit Views Search Actions Reports Tools Help

DocType: BM BOM Number: 102595 Revision: B Workflow Rqrd

Name: BOM of

Owner: Data Administrator

Planned Release Data:

Designated User(S):

Release Date (Actual):

Released

Physical Items

Pos	Qty	Item Number	Name
10	2	430878	SM-8020, 10K, 5%
30	2	240897	SM-7795, 330PF, 5%
40	1	442163	SM-55PF, 50V
50	2	411025	SM-XXX 4.75K 1%
50	1	522030	Battery Holder, SMC
60	1	792554	Circuit Array
70	1	372514	Programmed Chip

Ready

Document - MS 115720 Material Specs -Battery (read only) - Microsoft Internet Explorer

File Edit Views Search Actions Reports Tools Help

DocType: MS Document Number: 115720 Revision: A Workflow Rqrd

Name: Material Specs -Battery

Owner / Author: Innovator Admin

Designated User(S):

Description:

Planned Release Date:

Release Date:

Authoring Tool: Version: Effective Date:

Has Files

Draft

Files

File Name	File Type [...]	Comments	Sequence
docSPEC-01021.doc	MS-WORD 97-2003		128

Ready

Items 1-1 of 1. Page 1 of 1

aras INNOVATOR

ECN Impact Matrix



ECN - ECN-0000107 Change to Module Assembly (read only) - Microsoft Internet Explorer

File Edit Views Search Actions Reports Tools Help

ECN Number: ECN-0000107
 Title: Change to Module Assembly
 Item Under Change: 393530 Module Assembly
 Hierarchy Effectivity: Latest Released
 In Planning

ECN Priority: 1 2 3 4
 Create Date: 11/22/2009 11:50:14 PM
 Creator: Data Administrator

Change Specialist: Data Administrator
 CIB Lead: []
 CIB: []
 Fast Track: [x]
 Effectivity Date: []
 Change Release Date: []

Attachments: Impact Matrix | Impacted End Items | SignOffs | related ECRs

Physical Item\Document Number	Qty	Pos	Name	Rev	CL	Chg Action	Doc Ty	Superseding Item	TRev	New Name	Lck	Status	Doc Owner	Doc User(s)	Doc Release C
393530 -> AS RELEASED	--	--	Module Assembly	--	--	Doc Change	--		--						
JS393570	--	(4)	Tech Specs	C		Supersede Doc			auto			[not versioned]	[]	[]	[not set]
PP393530	--	(3)	Production Plan	B											
AD393530-1	--	(1)	Assembly Drawing	A											
BM393530	--	(2)	BOM of	B		New Doc Rev	BM	393530	auto	BOM of		[not versioned]	[Data Administrator]	[]	[not set]
115720	1	10	Lithium, BR, 2 Year			Doc Change									
PS115720	--	(1)	Procurement Specs	A		New Doc Rev	PS	115720	auto	Procurement Specs		[not versioned]	[Data Administrator]	[]	[not set]
BM115720	--	(0)	BOM of Lithium, BR, 2 Year	A		New Doc Rev	BM	115720	auto	BOM of Lithium, BR, 2 Year		[not versioned]	[Data Administrator]	[]	[not set]
411157	1	10	Battery Clip			Supersede Item									
353561	1	20	Molded Back Half			Doc Change									
_NEW_DOC	--	(0)	Add new or existing (BM) Document	--		Add Document			auto			[not versioned]	[]	[]	[not set]
MS353561	--	(2)	Material Specs	A											
DD353561	--	(1)	Design	A											
NEW_ITEM	1	1	Add new or existing Physical Item	--		Add Item	--								
402101	1	30	Molded Front Half, 4 Hole												
MS402101	--	(2)	Material Specs	A											
DD402101	--	(1)	Design	A											
462030	1	40	Molded, 4 Button			Delete Item									
292102	1	50	Key, 1/2 Inch, Stainless Steel			Doc Change									
MS292102	--	(2)	Material Specs	C											
PS292102	--	(1)	Procurement Specs	C		Delete Document									
102595	1	60	Assembly, FPD, SM, PSS			Doc Change									
BM102595	--	(2)	BOM of	B		New Doc Rev	BM	102595	auto	BOM of		[not versioned]	[Data Administrator]	[]	[not set]
AD102595	--	(1)	Drawing	A											
PP102595	--	(3)	Production Plan	A											
NEW_ITEM	1	1	Add new or existing Physical Item	--		Add Item	--	30110		Housing					
430878	2	10	SM-8020, 10K, 5%												
PS430878	--	(1)	Procurement Specs	A											
240897	2	30	SM-7795, 330PF, 5%												

Document Review



DocReview - DR-0001025 First Release Review (read only) - Microsoft Internet Explorer

File Edit Views Search Actions Reports Tools Help

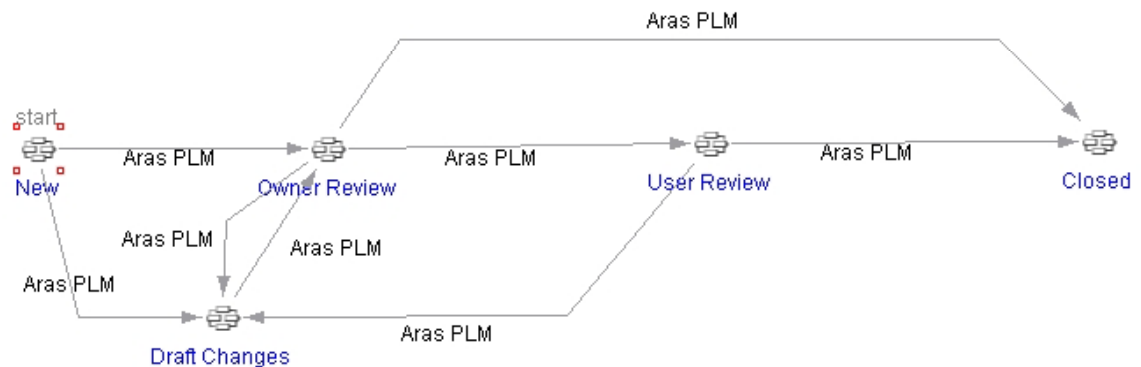
Number: DR-0001025
 Review Coordinator: cm2 User
 Release Date:

DocReview
 Title: First Release Review
 Creator: cm2 User
 Created_On: 3/11/2010 2:39:01 AM
 Review Board: [Change Control Board](#)
 Description / Reason:

Affected Documents SignOffs

Actions: No Related

Affected Document [...]	CM2 Doc T	Rev	Gen	Doc Status	Target Status	Doc Planned Re
DD 10000 Product Drawing	DD	A				
PP 10002 Prod. Plan	PP	A				
PS 10000 Procurement Specs	PS	A				
AD 10001 Assy Drawing	AD	A				
BM 10000 Product BOM	BM	A				



Baselining Updates



Simple Search [v] Page Size: 25 Max Results: [v] Current As Of: [v]

Part Number	Revision	Name	Type	State	Cost
100-1	A	Wheel Assembly	CM Baseline	Released	
101-1	A	Tire			
102-1	B	Hub Assembly			
103-1	B	Inner Hub			
104-1	A	Outer Hub			
203-1	E	Fancy Inner Hub			

Part
 Created By: **Innovator Admin**
 Created On: **1/15/2010**
 Modified By: **Innovator Admin**
 Modified On: **1/15/2010**
 Locked By:
 Major Rev: **A**
 Release Date: **1/15/2010**
 Effective Date: **1/15/2010**
 Generation: **1**
 State: **Released**

Date dialog -- Webpage Dialog
 March, 2010
 Sun Mon Tue Wed Thu Fri Sat
 28 1 2 3 4 5 6
 7 8 9 10 11 12 13
 14 15 16 17 18 19 20
 21 22 23 24 25 26 27
 28 29 30 31 1 2 3
 4 5 6 7 8 9 []
 Today: 2010-05-11T04:47:33
 Time: None 4:47:13 AM
 Time Zone: Corporate Local

Baseline Report

As Of: 2/1/2010 12:00:00 AM

Indenture Level	Part Number	Rev	Name	Quantity	Document Number	Rev	Name
0	100-1	A	Wheel Assembly	1			
1	101-1	A	Tire	1			
1	102-1	A	Hub Assembly	1			
2	103-1	A	Inner Hub	1			
2	104-1	A	Outer Hub	1			

Baseline Report

As Of: 3/1/2010 12:00:00 AM

Indenture Level	Part Number	Rev	Name	Quantity	Document Number	Rev	Name
0	100-1	A	Wheel Assembly	1			
1	101-1	A	Tire	1			
1	102-1	B	Hub Assembly	1			
2	203-1	E	Fancy Inner Hub	1	D203-1	C	Fancy Hub Drawing
2	104-1	A	Outer Hub	1			